

IMPROVING SENIOR LEADER DECISION MAKING IN A COMPLEX, UNCERTAIN WORLD

BY

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USAWC STRATEGY RESEARCH PROJECT

IMPROVING SENIOR LEADER DECISION MAKING IN A COMPLEX, UNCERTAIN WORLD

by

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This paper examines ways to improve Army senior leaders' decision making. After an initial description of the operational environment's complexity and uncertainty and an examination of the current decision making processes in use, the paper examines ways for improvement in the areas of design, risk management and incorporation of intuition. Given the complexity Army leaders face at the operational level, it is important to acknowledge that decision makers do not – cannot – have all relevant information impacting a decision. Accounting for, articulating, and accepting the unknown variables and uncertainties can improve decision making. Consequently, this paper explores the risk management process to better characterize operational risk and enable decision makers to better evaluate decisions' impact and effectiveness. Intuitive decision making, although somewhat contrary to Army culture, occurs frequently, based mostly on the decision maker's personality. Accepting intuition as a valued contributor to good decision making and incorporating elements of intuitive decision making can increase the robustness of a larger process. Recommendations for improvements to the Army's decision making processes conclude the paper.

IMPROVING SENIOR LEADER DECISION MAKING IN A COMPLEX, UNCERTAIN WORLD

Perhaps the greatest change, however, is on the ground level with the men and women on the front lines. Young officers and NCOs at the front have always had to make profound life-and-death decisions. In today's conflicts, their responsibilities are even greater and more complex: playing the roles of warrior, diplomat, mayor, economist, city engineer, and tribal liaison – all often at the same time. We must ensure that the kind of mental agility, entrepreneurial spirit, and independent judgment required to be effective downrange carries over into future assignments.¹

—Secretary Robert M. Gates
Secretary of Defense

Secretary Gates' comments to the audience at the Association of the United States Army's annual convention in 2009 capture this paper's impetus related to decision making. Although Secretary Gates highlighted "young officers and NCOs," the idea of complex multiple responsibilities and mental agility holds true at higher levels of leadership as well. Army senior leaders in today's conflicts are given complicated responsibilities to carry out in complex and uncertain environments which impact life-and-death decisions. Mental agility and independent judgment are necessary decision making qualities to be successful in Iraq and Afghanistan and are highly valued attributes of our most senior military leaders well beyond that theater.

America's senior military leaders have a vested interest in grooming their successors and insuring their development includes an appreciation for decision making in complex and uncertain times. Take for example, Chairman of the Joint Chiefs of Staff, Admiral M.G. Mullen's comments to the Naval War College in January 2010 when he compared the world after his War College experience some 20 years ago to today's operating environment, "...I think it's going to get a whole lot more complex in ways that I don't understand than the opposite. And to go back to where I started which is 22

years ago when I was a commander right down the road here, I had no idea that we'd be living in the world we're living in."² As the nation progresses into the 21st Century, the complexity and speed of change our leaders face continues to grow.

Senior leaders with sound judgment and practiced decision making skills are absolutely essential to maintain the United States' quantitative and qualitative advantage over adversaries, both in our current wars and in the years to come. Many of our future Army senior military leaders are currently honing their decision making skills from multiple combat operations in Iraq and Afghanistan. For example, some Brigade Combat Team commanders in these theaters wield more combat power, are responsible for more terrain, and must influence a broader range of society than most Cold War era divisions; more than was imaginable just 10 years ago. Compounding this strategic significance, that Brigade Combat Team's operations and the commander's decisions can become part of continuous global media news cycle. So significant is this transparency, the Capstone Concept for Joint Operations states that it puts greater pressure on commanders at all levels, whose every decision could become a strategically significant event.³

This operating environment is illustrated by the daily challenges confronting virtually every Brigade Combat Team Commander in Iraq circa 2005 – 2009. They are responsible for one or more Iraqi provinces, which involves coaching, training, and operating alongside one or more Iraqi Army divisions, combating both terrorists focused on killing or eradicating Western influence from all of the Middle East, and insurgents focused on achieving an appropriate share of wealth, influence and power. Most every area of operations shared a border with another country pursuing its own interests in

Iraq or a significant ethno-sectarian or tribal fault line, or both. These and many more challenges combine to create a situation rife not only with opportunities to achieve great strategic successes, but also to suffer strategic missteps with far reaching impacts.

This paper examines how to improve senior leaders' decision making, given increased levels of responsibility for strategic success expected from increasingly lower level organizations and their leaders. The Joint Operating Environment of the future, as well as the current environments of Iraq and Afghanistan, present decision makers with unprecedented levels of complexity and uncertainty. As this paper will illustrate, the doctrinal processes and tools available to commanders and their staffs, specifically the Military Decision Making Process and Composite Risk Management process, do not adequately address these high degrees of complexity and uncertainty. A key issue is whether we can improve decision making by revising the way we approach complexity, uncertainty and risk and how best to include intuition as a valued contributor to sound decision making.

This paper focuses on Army decision makers at the colonel and brigadier general level, that is, brigade and joint task force commanders for several reasons. Not the least of these reasons is the strategic impact these O-6 and O-7 level leaders are having today in Iraq and Afghanistan, as described above. Additionally, Army doctrine suggests that it is at the colonel level that officers are first expected to deal adeptly with complexity and uncertainty. For example, the U.S. Army Training and Doctrine Command's Leader Development Strategy for Officers calls for colonels to be experts in scanning the external environment and to astutely manage complexity.⁴ Although virtually all colonels and brigadier generals make decisions everyday in the face of

complexity and uncertainty, most are working on behalf of their commanders or more senior leaders. Brigade and joint task force commanders, however, sit atop the decision making processes of their own organizations and are key decision makers. They also operate at the seam between tactical and operational levels. Finally, as highlighted by Secretary Gates' and Admiral Mullen's quotes at this paper's beginning, it is these nascent senior leaders that will be the three and four star leaders of the future, whose mental agility and judgment must be developed and improved for the even greater challenges they will face at higher levels. For example, of the 11 active component Army four star generals, 100% served as brigade commanders and 92% of lieutenant generals were brigade commanders.⁵ Therein lies the imperative to improve senior leaders' decision making -- to promote the success and experience of leaders at every level and prepare them for higher authority and responsibility in an environment of increasing complexity and uncertainty.

A World of Complexity and Uncertainty

Decision makers at every level of the military are confounded by the complexity of the environment they endeavor to influence. According to Secretary Gates in 2007, "the end of the Cold War, and the attacks of September 11, marked the dawn of another new era in international relations – an era whose challenges may be unprecedented in complexity and scope."⁶ Another strategic perspective of complexity comes from the 2009 Army Posture Statement that describes the current global context as a diverse range of complex operational challenges that call for a change in the attributes and processes of conflict.⁷ Decision making processes may be one worth changing. Testifying before the Senate Armed Service Committee, Commander of United States

Central Command, GEN David Petraeus, said he faces inestimable complexity at the operational level in the CENTCOM AOR.⁸ Describing the complexity Multi-national Division – North faced at the operational and tactical level in Iraq during 2008, LTG Mark Hertling highlighted the diversity of terrain, conflicting ethnic and religious factions, different provincial governments' capacities, primitive infrastructure, unfamiliar industries, international agendas, and a variety of enemies and criminals indistinguishable from law abiding citizens.⁹

Military doctrine offers no formal definitions of complexity and uncertainty, despite the terms' frequent appearance in doctrine and discourse. For clarity and consistency, this paper's use of the term complexity stems from Webster's definition of complexity as being "a whole made up of complicated or interrelated parts;... a group of obviously related units of which the degree and nature of the relationship is imperfectly known."¹⁰ Training and Doctrine Command's pamphlet on the emerging concept of campaign design offers a description of interactive complexity most relevant to this paper's military context.

Interactive complexity makes a system more challenging and unpredictable than structural complexity. These systems are non-linear because they are not proportional, replicable, or additive, and the link between cause and effect is ambiguous. They are inherently unstable, irregular, and inconsistent.... A system composed of people is inherently interactively complex because people have great freedom of action and links to many others in their society.... Since warfare represents a clash between societies or cultures, most operational problems are both structurally and interactively complex.¹¹

Clausewitz referred to the significance of uncertainty in On War, as "War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty. A sensitive and discrimination

judgment is called for a skilled intelligence to scent out the truth.”¹² Again, a definition is called for, but this time military manuals offer no authoritative perspective. Webster provides the definition of uncertainty as being “indefinite; indeterminate; not certain to occur; problematical; ...not known beyond doubt; dubious; without certain knowledge; not clearly identified or defined.”¹³ In their book Embracing Uncertainty: the Essence of Leadership, the authors describe uncertainty as being defined by its opposite. Certainty means that something is fixed or settled; free of doubt; certain of what is known. To embrace uncertainty is embrace doubt. They go on to characterize uncertainty as not a binary, yes-or-no proposition, but rather degrees along a continuum. The four sources of uncertainty are absolute ignorance (not knowing that you don’t know); knowledgeable ignorance (knowing that you don’t know); randomness (events or outcomes unknowable by virtue of how they are determined); and complexity (incomprehensible interrelationship among many variables).¹⁴ The latter highlights the distinction between the concepts of uncertainty and complexity, but also their relationship. Simply, complex systems can create uncertainty by virtue of one’s imperfect understanding of the relationship among the elements.

What makes the operating environment so complex at the level brigade and joint task force commanders operate, a level that overlaps the tactical and operational levels, is not only related to an elusive, indistinct and adaptive enemy. Commanders throughout history have dealt effectively with sophisticated enemies and done so with traditional military tools and processes. The complexity and uncertainty that most often fogs the decision making of today’s combat leaders stems from the novel and complex domains that are not traditionally military domains. Brigade and joint task force leaders

today must make decisions that affect and are affected by a myriad of societal systems such as civil governance, economics, banking, agriculture, tribal relations, religious ethnic interactions, transportation infrastructure and capacity, criminal behavior, government corruption, and judicial systems. Furthermore, these decisions have a greater opportunity to have strategic consequences due to speed and transparency actions today can be transmitted and shared globally.

Military Decision Making Processes

To examine how future senior leaders should make their most fundamental decisions, the “what” and “how” of their units’ military actions, requires an examination of the two primary decision making models proscribed for their use. The Army doctrinal model for decision making is the Military Decision Making Process. There is also the emerging doctrine of design that is garnering significant interest in both Army and joint doctrine. As will be examined, these two decision making approaches, although valuable, do not adequately address the complexity, uncertainty or operational tempo of today's operating environment.

The Army's current doctrinal process that describes how commanders make decisions about their unit operations is the Military Decision Making Process (MDMP). Army Field Manual 5-0, Army Planning and Orders Production, describes the MDMP as a detailed, deliberate, sequential, and time consuming seven step analytical process that helps commanders and staffs organize thought and make decisions.¹⁵ The MDMP has seven distinct steps consisting of some 42 subordinate tasks, steps and components.¹⁶ These seven steps are illustrated in Figure 1.

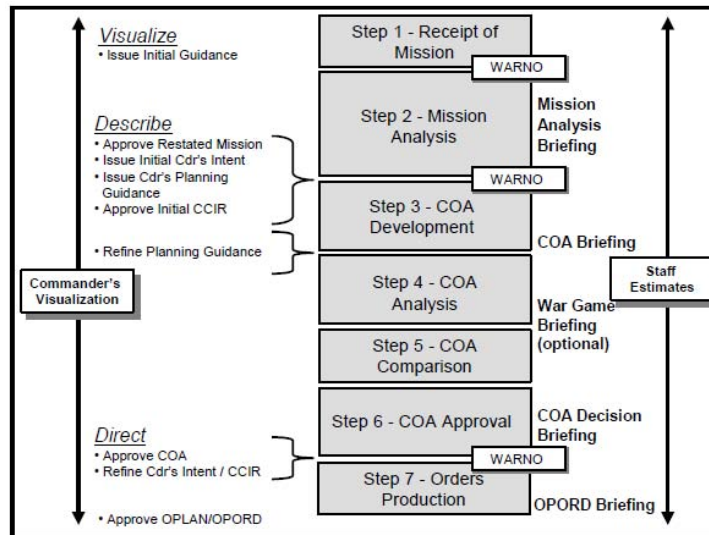


Figure 1 from FM 5-0, depicts the commander's role on the left and the staff's role on the right in the seven steps of the Military Decision Making Process.¹⁷

As part of the MDMP, the commander's staff develops informational inputs that form the decision's foundation. The breadth and depth of information and analysis required for the Intelligence Preparation of the Battlefield (IPB) and the key staff estimates, (operations, personnel, intelligence, logistics, civil-military operations, signal, and information operations, in addition to any special staff estimates) are immense.¹⁸ Field Manual 2-01.3, Intelligence Preparation of the Battlefield is the Army's 126 page doctrinal description of how the staff analyzes and visualizes aspects of the threat, terrain, weather, and society to support the MDMP.¹⁹ The civil-military operations staff estimate, for example, must assess societal characteristics that can be diverse and difficult to determine, such as the population's attitudes, economic and infrastructure damage, status and character of the civil government, and ability of local officials to maintain public order.²⁰

In view of the greater impact and increasing complexity of today's operating environment in which brigade commanders and joint task force commanders must make

decisions, the staff cannot adequately know all relevant information and express it to the commander in a meaningful and timely way. As U.S. Marine Corps General Charles Krulak described in his 1999 seminal article about “strategic corporals” and the “three block war,” the military’s analytical decision making depends on a high level of situational certainty and accuracy to be effective. Yet, these conditions rarely exist once an enemy is engaged, and the situation becomes fluid and time sensitive.²¹

The MDMP addresses risk and views risk management as one way of compensating for the environment’s uncertainty.²² The current version of FM 5-0, however, describes risk as hazards that exist because of the presence of either the enemy or an adversary. As part of the MDMP, risk is characterized by both the probability and severity of a potential loss that may result from the adversary’s presence or a hazardous condition. Doctrinally, commanders must manage risk by a five step process, shown in Figure 2, of identifying, assessing, and controlling risks arising from operational factors, and making decisions that balance risk cost with mission benefits.²³ In other words, this involves decision making using a five step risk decision making process nested within a seven step decision making process. FM 5-0 suggests commanders compensate for uncertainty and reduce risk by increasing the reconnaissance effort, size of the reserve, speed, precision, or simultaneity of operations.²⁴ However tactically sound that may be, this view of risk and its reduction does not measure up to the demands of the colonel and brigadier general level decision makers operating in a fast-paced, complex and strategically sensitive environment. The sources of risk to the operation’s success are much more than those posed by an enemy force. In Iraq and Afghanistan, political, economic, and societal events and

actors can be threats to success. These factors are not as easily identified, understood, anticipated and categorized as MDMP suggests.

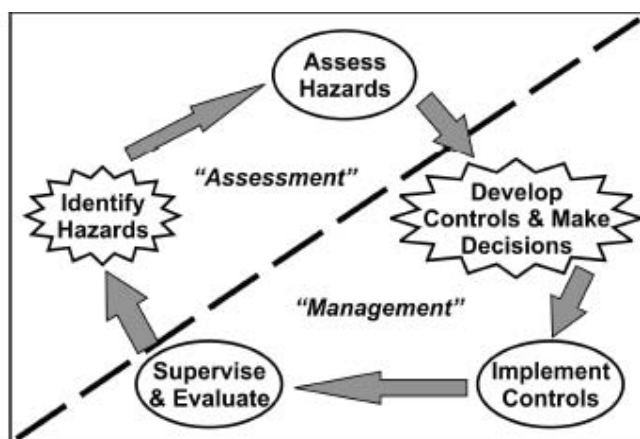


Figure 2. The five steps of Risk Management.²⁵

Design

While not currently considered a formal, doctrinal decision making process, the emerging concept of design does give commanders a methodology for forming a framework to develop and guide operations. To be clear, this paper examines the emerging concepts and doctrine of design as a cognitive framework for understanding the environment and deciding upon and developing military approaches to solving problems, not operational design.

The emerging concept of design is described in the Army's Draft version of a revised FM 5-0, *The Operations Process*, as "a methodology for applying critical and creative thinking to understand, visualize, and describe complex, ill-structured problems and develop approaches to them."²⁶ As depicted in Figure 3, the elements of design, framing the environment, framing the problem and developing an operational approach,²⁷ are relevant to this paper's examination and could be applied to decision making at the brigade and joint task force level.

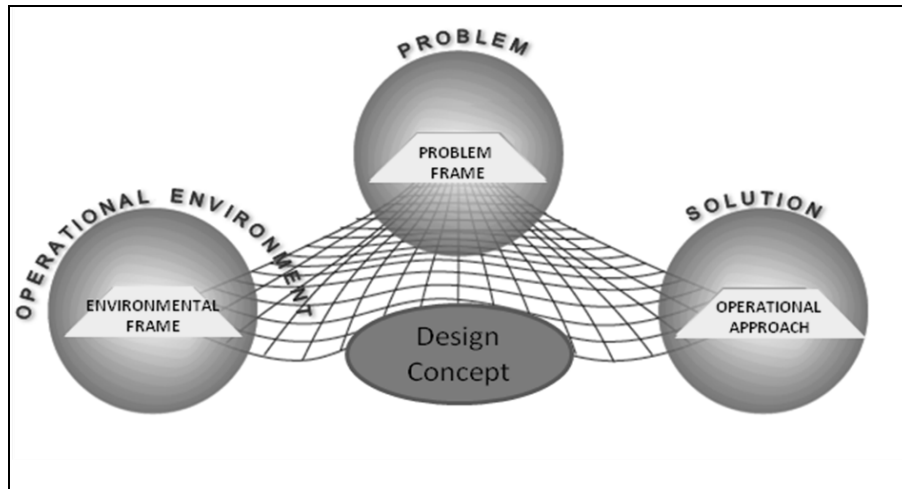


Figure 3. The activities of Design.²⁸

Although a thorough understanding of the operating environment and adversaries is necessary for effective design, this approach acknowledges the operating environment's complexity and uncertainty. Rather than assume understanding is included in a myriad of staff estimates that form the background logic for the rational and analytical MDMP, design calls for the commanders' participation in divergent thinking and broad conceptualizations of relevant factors that are less sensitive to deviation from the understanding. For example, the concept of design addresses uncertainty, complexity and risk as follows:

Today's operational environment presents situations so complex that understanding them – let alone attempting to change them – is beyond the ability of a single individual. Moreover, significant risk occurs when assuming that commanders in the same campaign understand an implicit design concept or that their design concepts will be mutually supporting. The risks multiply, especially when a problem involves multiple units, Services, multinational forces, or other instruments of national power. Commanders mitigate these risks with collaboration and by applying the design fundamentals: applying critical thinking, understand the operational environment, solve the right problem, adapt to dynamic conditions and achieve the designated goals.²⁹

The emerging concept of design addresses risk in a manner similar to the current construct, but with some significant improvements to the MDMP. One difference is that one of design's early outputs is initial planning guidance, which includes the commander's articulation of acceptable risks.³⁰ Another advantage to design's emerging doctrine is its fundamental imperative to solve the right problem as one of the methods to mitigate risk. This paper's section on risk management as a method to compensate for uncertainty includes a discussion of the risk of unintended consequences in complex systems. Design's focus on solving the right problem specifically addresses that type of risk by mandating that commanders closely examine the symptoms – the underlying tensions – and the root causes of conflict in the operational environment and consider more accurately how to solve it.³¹

If published, Draft FM 5-0's more broadly applicable concept of design could enhance decision making at the brigade and joint task force level. At that tactical level, design cannot replace MDMP, but rather design complements MDMP. Commanders could empower tactical organizations to develop specific and detailed courses of action to change aspects of the environment the commanders determine most relevant by applying design's broad and divergent consideration of factors.

The primary contribution the emerging concept of design can make to benefit brigade and joint task force commanders' decision making is promoting the applicability of the concepts at these lower levels of command. The emerging concept of design is optimized for the operational level of war. The theater level commander, who plans and executes at the operational level of war with campaigns and major operations, is the primary focus of design and the Campaign Design Planning Process. However, design

can be applied at levels below the theater operational level. The U.S. Army Training and Doctrine Command's examination of design concluded that dealing with complexity is no longer limited to generals and admirals at the theater level, but now commanders at much lower levels also face complex problems and could benefit from a design approach.³²

Risk Management as a Tool for Compensating for Uncertainty

"Risk has become the language of business, politics, and public policy, and so we should not be surprised that it should also have become the language of war."³³ In keeping with Professor Christopher Coker's description of its pervasiveness, Risk Management is integral to all forms of military decision making, including the MDMP. Army and Joint doctrine define Risk Management as the process of identifying, assessing, and controlling risks arising from operational factors and making decisions that balance risk cost with mission benefits.³⁴

In Army planning, the risk management process is the primary means by which commanders compensate for uncertainty. Uncertainty and risk are inherent in tactical operations. Commanders cannot be successful without the capability of acting under conditions of uncertainty while balancing various risks and taking advantage of opportunities. Because uncertainty exists in all military operations, every military decision incurs some risk.³⁵ Consequently, the Army's doctrinal process for managing risk, Composite Risk Management (CRM), is an integral part of the Army's military decision making cycle. CRM is a decision making process for identifying hazards and controlling risks across the full spectrum of Army missions, functions, operations, and activities.³⁶ It is a five step, rational decision making process that identifies hazards to the force and characterizes risk in broad terms of extremely high, high, moderate and

low. The result of CRM is recommendations of measures to reduce the risk which the commander must decide to accept, modify, or reject.

This traditional military approach to Risk Management is effective at the tactical level and when dealing with traditional military problems. Compensating for the uncertainties of enemy composition, location or intent by increasing reconnaissance, enlarging the reserve, or changing the friendly forces' formation, relative combat power or scheme of maneuver are reasonable and straightforward propositions. Those variables are well understood by modern military practitioners. This process is appropriate and worthy of continued use.

Traditional military risk management, however, does have some shortcomings. Perhaps due to its origins in the domains of safety and force protection, the Army's doctrine for risk management focuses on hazards defined as, "conditions with the potential to cause injury, illness, or death of personnel; damage to or loss of equipment or property; or mission degradation."³⁷ This cognitive focus on external factors can reduce a unit's effectiveness because it creates two problems when operating in a complex, full spectrum operating environment. First, the rational, analytical risk management process is dependent upon staff officers to conceive, understand, and predict dynamic outcomes of events and conditions they cannot fully appreciate. Just as the staff estimates and IPB processes presume the staff can support MDMP with extensive and detailed analysis and synthesis of the environment, this subordinate decision making process demands similar levels of expert knowledge that likely do not exist. In his book, War in the Age of Risk, Christopher Coker highlights the conundrum of knowledge based risk management. In short, a greater understanding of the risks that

exist in turn generates cognizance of more risks that must be addressed. This potential paralysis of analysis creates risk aversion.³⁸

The second shortcoming concerns the focus on external factors impacting on the unit. The primary source of risk for which commanders at the brigade and joint task force level do not have adequate tools to address is the risk of unintended consequences when acting upon a complex system where elements are not fully known or understood. In other words, in complex and full spectrum operations occurring today in Iraq and Afghanistan, a brigade is more likely to suffer mission failure, not from an unexpected enemy attack or poor weather conditions, but rather from loss of trust of a local populace due to perceptions of disrespect, favoritism to a rival, support of corrupt local official, or similar missteps in complex, non-military domains.

When responsible for operating in complex environment with some responsibility for non-traditional military operations, brigade and joint task force commanders could improve their approach to risk management by incorporating elements of other forms of military risk assessment. Although joint doctrine for risk management uses a process similar to the Army's Composite Risk Management process, JP 3-0 does prompt commanders to give additional consideration to developing "reasonable alternatives to mission accomplishment."³⁹ As discussed earlier, a commander's application of the design framework to consider a broader range of hazards and implications could compensate for his staff's inability to rationally conceive of and analyze every possibility.

Intuition as a Method to Compensate for Complexity and Uncertainty

The use of intuition within military leaders and campaigns is historically well known and studied. Intuition expert William Duggan cites examples of military intuition in ancient treatises, such as Sun Tzu's Art of War and India's Bhagavad Gita from the

fourth century B.C.⁴⁰ Clausewitz's study of Napoleon's success described the term, still in use today, *coup d'oeil* as "the quick recognition of a truth that the mind would ordinarily miss or would perceive only after long study and reflection."⁴¹

More recent studies of intuition maintain the relevance of intuition to decision making in many current contexts, especially a complex military operational environment. Intuition becomes increasingly valuable precisely because there is so much data. Given the increasing demand on our limited mental capacity, intuition represents a much needed form of cognitive economy.⁴² Malcolm Gladwell, author of Blink, would agree. His second of two lessons on decision making is "frugality matters." Reducing a problem to its simplest elements and recognizing patterns, a key intuition attribute, is essential in decision making. The studies Gladwell examined showed that adding too much data reduced the decision maker's ability to recognize the pattern.⁴³

Despite a diversity of definitions and some controversy over intuition's place in military doctrine, William Duggan highlights that intuition already exists in the Army's doctrinal, analytical decision making process, the MDMP. Many of the initial steps of MDMP require intuition to set the analytical process in motion. For example, developing the commander's vision, stating the commander's intent, articulating the desired end state of an operation, and defining and weighting the criteria with which to evaluate courses of action all require an understanding of the most important aspects of a situation that is not arrived at by means of a lengthy, rational process. They are the product of a leader's intuition.⁴⁴

While there are a variety of definitions of intuition, there is not a doctrinal military definition. Many definitions of intuition actually describe different types of intuition.

Clausewitz's description of *coup d'oeil* is one. William Duggan's work on strategic intuition focuses on flashes of insight in which the informed and reflective mind forms new combinations of previously known elements to redefine a problem and its solution nearly simultaneously.⁴⁵ Duggan also describes what many researchers refer to as "expert intuition" most often seen in personnel with many years of experience and study in their field who are able to process quickly, even unconsciously, subtle environmental cues and make rapid, accurate judgments.⁴⁶ There is a long list of examples of intuition based less on science and evidence and more on "sixth sense" or "gut feelings" which makes it difficult to assess their validity. However, this diversity of definitions has commonalities that are captured well by Dr. Wong's definition of intuition:

Intuition is a collection of interrelated abilities or skills, which can be executed automatically and seemingly unconsciously. It involves the ability to see deeply, clearly, and holistically. It is capable of seeing the best solution to a problem before finding it. It also includes the ability to grasp immediately the significance and essence of the situation and make instant decisions. It is mostly based on deeply ingrained propensities and heuristics, but it may also reflect a well-informed mind that is agile, fluid and open to all possibilities.⁴⁷

This paper's context of military decision making includes key aspects of these prominent definitions of intuition: a subconscious processing of environmental cues, rapid recognition of a situation's similarity to previously experienced or studied situations and the development of spontaneous insights that either re-define problems, identify solutions, or both.

As with any decision making process, when using intuition in military decision making it is important to understand its applications and limitations. William Duggan's study of intuition in Army planning acknowledges "*coup d'oeil* as an educated guess and no more, while analytic methods give a false impression of certainty, completeness and

rigor.”⁴⁸ Duggan contends, contrary to Army Field Manual 5-0, that intuitive decision making is usually faster than analytic decision making, is not limited to experienced leaders, does work well in complex and unfamiliar situations, and it does not overlook more implications than analysis does.⁴⁹ In his book, Get There Early, Bob Johansen warns decision makers not to mistake dilemmas (complex situations with multiple bad options for resolution) for problems (which have solutions that can be determined). Aggressive problem solvers, like the military cultivates, can effectively use analytic methods to solve problems but will make a mess of dilemmas.⁵⁰ A more sophisticated approach, such as intuitive decision making, is appropriate for complex situations.

Several experts agree that the most important aspects of intuition are knowing when to use intuition and achieving the right blend of intuitive and rational analysis.⁵¹ In fact, Malcolm Gladwell's first lesson of decision making is that successful decision makers rely on a balance between deliberate and intuitive thinking. Deliberate thinking is a wonderful tool when we have the luxury of time, and the fruits of that type of analysis can set the stage for rapid cognition, an attribute of intuition.⁵²

Other experts also agree that intuition is not infallible even in simple, easily measured observations⁵³ and should be considered “the beginnings of inquiry.” Intuitive conclusions must be subjected to critical thinking, continued examination, and evaluation of evidence.⁵⁴ Dr. Wong advises that we must monitor and reflect upon on intuitive decision making to ensure our unconscious processes serve our conscious needs.⁵⁵

If Army leaders accept intuition as a valued contributor to effective decision making, we must look for ways to cultivate it in our future leaders. My research found

four areas that will promote the development of intuition: a command climate that accepts it, individuals who are open to it, study of history and situational awareness, and the practice of intuitive decision making and related skills.

In his article, “Cultivating Intuitive Decisionmaking,” General Krulak urged Marine Corps leaders to establish command climates within their units that are supportive of intuitive skills development and decision making at all levels.⁵⁶ COL Todd McCaffrey’s research on developing intuition in junior Army officers also found that an accepting and supporting command climate is a key element in promoting an intuitive ability in the Army’s youngest leaders.⁵⁷

Being open to the value of intuition, the second area needed to develop intuition, requires leaders to accept the validity of intuition and be self aware enough to look for and heed the signs and signals of intuition, such as discomfort with the status quo and insights that redefine problems.⁵⁸ Talula Cartwright’s guidebook, “Developing Your Intuition” points out that leaders must “learn to trust their instincts when critical situations demand quick decisions and when complex problems defy easy answers.”⁵⁹

The study of history is essential in enlarging the database against which situations can be compared, which is the third way to cultivate intuition in decision makers. Many of descriptions of intuition discussed earlier in this paper included the importance of recognizing the similarities between the current situation and historical examples. General Patton was one of the U.S. Army’s most renowned intuitive decision makers and was a famous student of history. General Krulak states a key element of developing intuition is the study of history with an eye toward examining the relevant decision making processes which took place during the particular event.⁶⁰ Eugene

Sadler-Smith also highlights the importance of prior learning and experience as the basis for making fast, accurate judgments.⁶¹

The final way to develop intuition in decision makers is through the practice of intuitive decision making and related skills. Some of the intuitive skills General Krulak exhorted his Marines to develop are more thoroughly detailed by other experts, such as Dr. Wong who suggests a focus on observation, speculation, generalization and testing to improve one's intuition.⁶² Cartwright promotes journal writing, mental imaging, analytical thinking, and controlling one's emotions under stress.⁶³ Practicing and exercising intuition and rapid, intuitive decision making in difficult circumstances is promoted by almost all experts, but none with as much relevance and eloquence as General Krulak:

If we know that the effectiveness of intuitive decision making is dependent upon experience, we must seek way to give our Marines that experience. We should recognize decision making as a vitally important combat skill and promote its development throughout our training curriculum – both in our formal schools curricula and in our local unit training programs...Just as we expect a Marine to employ his weapon under combat duress, we must likewise demand that he employ his mind. Marines need to be comfortable with using their intuition under highly stressful circumstances.⁶⁴

Recommendations

To support commanders' ability to make effective decisions in today's complex operating environment, the Army's revised FM 5-0 should expand the concept of design to include applicability down to the brigade level. Commanders at that level can use design's concepts of framing the environment and the problem and developing operational approaches to improve their own cognitive approach to complex situations. Consequently, this broader perspective and alternate cognitive approach to the situation will enable them to better guide and balance their staffs' analytical MDMP.

The Army should expand the doctrine of Composite Risk Management to include risks associated with unintended consequences. As another rational decision making process, the CRM process could also benefit from leaders who apply design's framework and intuition to the process, again as a guide and counterbalance to the staff's application of the doctrinal process. Applying design's divergent thinking and broad consideration of an operation's potential derailers would result in a more relevant set of threats and, consequently, a better decision and a more thorough plan or order.

Inculcating intuition in our military culture and budding leaders requires a two prong approach. Institutionally, Army leadership training curricula should acknowledge intuition as a valid contributor to good decision making. Leadership studies and "alternate perspectives" considered in conjunction with the MDMP are excellent examples of opportunities for Army training institutions to incorporate intuition. The second approach must occur at a more interpersonal level. Commanders must accept intuition as not only a time saver during crisis, but also is a valid method of compensating for complexity and uncertainty in fast paced, full-spectrum operations. A commander's intuition can also provide a cognitive counterbalance to the rational MDMP. This is only possible in organizations that have a command climate that encourages intuition development and rapid decision making under duress. As a reinforcement mechanism and a way to increase leaders' experience, commanders should create training opportunities to practice intuitive decision making for themselves and their subordinate leaders. During exercises, for example, commanders can require their staffs to focus only on the most essential aspects of a problem by limiting time and delimiting information available. Staff officers then must call upon their own intuition

while providing limited inputs to support their commander's intuitive processes.

Personal mentoring and a professional reading list that includes studies of intuition and intuitive leaders would also promote individual intuitive skills among Army leaders.

Conclusion

This paper examined ways to improve senior leader decision making in a fast-paced, full-spectrum operating environment full of complexity and uncertainty. After demonstrating the shortcomings of the doctrinal and rational MDMP and the CRM process in fully addressing high levels of complexity and uncertainty, this paper examined how the emerging concept of design could provide brigade and joint task force commanders a cognitive framework to enhance and complement the MDMP. The Army's doctrine of Composite Risk Management also did not completely address today's levels of complexity and uncertainty. Hence, the paper identified why the Army should revise this doctrine to include considerations of the risk of unintended consequences to improve decision making at the tactical and operational level. Finally, from examining historic and leaders' use of intuition as a valued contributor to senior leader decision making, this paper offered a working definition of intuition for the military context, described its applications and limitations and identified four ways to promote intuition within the Army. In essence, to better respond to 21st Century challenges the Army could improve senior leader decision making by expanding the concept of design, adjusting their risk management framework, and embracing intuition in various ways.

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